

CLAIMS:

1. A display for displaying and storing images, and comprising:
an optically addressable electrophoretic display (PD) with a stack of a
photoconductive layer (PCF) and an electrophoretic layer (EF) being sandwiched between
electrodes (E1, E2),
5 an optical addressing means (AD; LA) being optically coupled to the
photoconductive layer (PCF) for supplying addressing light (AL),
a driver (DR1) for supplying a drive voltage (DV) between the electrodes (E1,
E2),
a controller (CO) for controlling:
10 the driver (DR1) to supply the drive voltage (DV) with a value enabling a
change of the optical state of the electrophoretic layer (EF) in response to an amount of the
addressing light (AL) impinging on the photoconductive layer (PCF),
the driver (DR1) to change the drive voltage (DV) to a value enabling a
storage of the optical state of the electrophoretic layer (EF) independent on the amount of
15 addressing light (AL) impinging on the photoconductive layer (PCF), and
the optical addressing means (AD) to minimize a power consumption of the
optical addressing means (AD) and/or the electrophoretic display.
2. A display as claimed in claim 1, wherein the optical addressing means (AD) is
20 attached to the optically addressable electrophoretic display (PD) to form a single unit.
3. A display as claimed in claim 1, wherein the optical addressing means (AD) is
a matrix display (AD) with pixels, the pixels generating the addressing light (AL) impinging
on corresponding cells of the photoconductive layer (PCF).
- 25 4. A display as claimed in claim 3, wherein the matrix display (AD) is a poly-led
display.

5. A display as claimed in claim 1, wherein the controller (CO) is arranged for minimizing a power consumption of the optical addressing means (AD) by switching off the optical addressing means (AD).
- 5 6. A display as claimed in claim 1, wherein the driver (DR1) is switched off after the drive voltage (DV) has been changed to a value enabling storage of the optical state of the electrophoretic layer (EL).
7. A display as claimed in claim 1, wherein the electrophoretic layer (EF)
10 comprises microcapsules (MC).
8. A display as claimed in claim 7, wherein the microcapsules (MC) have a predetermined conductivity.
- 15 9. A display as claimed in claim 7, wherein the electrophoretic layer (EF) comprises a binder (RB) in-between the microcapsules (MC), the binder (RB) having a predetermined conductivity.
10. A display as claimed in claim 8 or 9, wherein the predetermined conductivity
20 is selected to keep the voltage across the electrophoretic layer (EF) low enough at dim surround light to prevent its optical state to change, while the voltage across the electrophoretic layer (EF) is large enough to change the optical state when the addressing light (AL) impinges.
- 25 11. A method of displaying on an optically addressable electrophoretic display with a stack of a photoconductive layer (PCF) and an electrophoretic layer (EF), the stack being sandwiched between electrodes (E1, E2), and an optical addressing means (AD; LA) being optically coupled to the photoconductive layer (PCF) for supplying addressing light (AL), the method comprising successively:
30 supplying (AD, LA) a drive voltage (DV) between the electrodes (E1, E2) with a value enabling a change of the optical state of the electrophoretic layer (EF) in response to an amount of the addressing light (AL) impinging on the photoconductive layer (PCF),

supplying (AD, LA) the drive voltage (DV) with a value enabling a storage of the optical state of the electrophoretic layer (EF), and

controlling (CO) the addressing means (AD) to minimize a power consumption of the addressing means (AD) and/or the electrophoretic display.